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TO: Natural Resources Board

FROM: P. Scott Hassett

SUBJECT: Background Memo on Adoption of Repeal and Recreation of Chapter NR 243, Wis. Adm. Code, Relating to Regulations for Animal Feeding Operations

1. Why is this rule being proposed?**a. What event or action triggered the proposal?**

On April 14, 2003, US EPA finalized revisions to federal regulations for Concentrated Animal Feeding Operations (CAFO). Under state law, and as part of the Department's delegation agreement with US EPA to implement the National Pollutant Discharge Elimination System (NPDES) permit program under the Wisconsin Pollutant Discharge Elimination System (WPDES) program, the Department is required to update its regulations to reflect the federal revisions. Accordingly, the revisions to ch. NR 243 implement the recent changes to federal CAFO regulations, and the proposed rules also include other changes to the WPDES permit program for CAFOs to protect water quality and improve program consistency.

b. What issues are addressed by this rule?

The regulations contained in ch. NR 243 are intended to address water quality impacts from animal feeding operations. Ch. NR 243 includes requirements for large, medium and small CAFOs under the WPDES permit program. Some sections of ch. NR 243 address implementation of the performance standards and prohibitions contained in ch. NR 151, but the Department is not proposing any changes to these sections. Since water resources in Wisconsin protected by the WPDES permit program include navigable lakes, streams, other surface waters, groundwater and wetlands, ch. NR 243 includes requirements to protect all of these types of water resources. However, ch. NR 243 does not address non-water quality related issues such as air pollution, odor or noise. Since ch. NR 243 is an existing administrative code, much of the framework for the WPDES permit program for CAFOs has been in place since the mid-1980's and already includes some of the revised federal rules.

The key issues associated with the proposed revisions to ch. NR 243 relate to:

- The duty to apply for a WPDES permit: All large CAFOs with 1000 animal units or more that store manure or process wastewater in structures that are located at or below grade, or that land apply manure are required to apply for WPDES permits.
- Calculating the size of an operation: The revisions include two methods for calculating the number of animal units at an operation (combined and individual animal unit calculation).
- Defining "agricultural storm water" discharges.
- General permits: The Department is proposing to issue general permits to CAFOs.
- Nutrient management planning requirements: The revisions outline requirements for phosphorus-based plans, restrictions on CAFO manure applied in the winter and restrictions on CAFO manure and process wastewater applications near surface waters.
- Groundwater protection: Best management practices included in the revisions are intended to better address potential groundwater contamination from applied CAFO manure and process wastewater

- Manure stacking: The rule includes allowances for in-field stacking (“headland stacking”) of solid manure.
- Distributed manure: The revisions outline CAFO responsibility for manure that is distributed or given away.
- Manure storage: The revisions require 180-day storage for liquid manure for permitted CAFOs (delayed compliance date of January 1, 2010, for existing operations).

Revisions at the federal level regarding how EPA calculates the size of operations that need to apply for permits, as well as a recent federal court decision (*Waterkeeper Keeper Alliance et al. v. EPA*, 399 F. 3d 486 (2nd Cir. 2005)) that affected a few of the 2003 federal rule revisions, have raised questions regarding how the Department implements the WPDES permit program for CAFOs and whether the Department should proceed with this rule package. Also, issues have been raised by producer groups regarding the parts of the proposed revisions that are more stringent than the federal regulations. The Department has outlined areas where the revisions are more stringent than federal regulations in Section 6 of the rule analysis.

Despite the decision in the *Waterkeeper* case, the Department believes the rule package should proceed forward because the *Waterkeeper* decision affects only a few parts of the revised EPA regulations. In addition, the few sections that were remanded to EPA won’t have a significant influence on Wisconsin’s program because under chapter 283, Stats., Wisconsin’s WPDES permit program has a broader scope than the federal program. Also, only Wisconsin and Illinois are the only states in EPA Region V that have not completed their efforts to include the new federal requirements in their delegated NPDES permit program.

2. Summary of the rule.

The major provisions of the code revision and associated description are as follows:

- Agricultural storm water: The proposed code outlines the conditions under which discharges of manure and process wastewater to surface waters are allowed from land application areas from permitted CAFOs and nonpermitted animal feeding operations with 300-999 animal units.
- Duty to apply: All large CAFOs that land apply manure or process wastewater or store manure or process wastewater in a below or at-grade storage facility, have actual discharges to groundwater and/or surface waters and are therefore required to apply for WPDES permits. Existing animal feeding operations that become a CAFO as a result of purchasing another animal feeding operation will be allowed up to 90 days from the date of purchase to apply for WPDES permits.
- Animal Units: The Department is proposing a “hybrid” approach for calculating the number of animal units at an operation. Operations will calculate the size based on two methods. First they will determine their “combined” number of animal units for all animals at the operation using numbers and procedures from the current version of ch. NR 243. Then, they will calculate the number of animals using the federal approach (federal equivalency factors and animal types are not added together). The method that results in the highest number of animal units determines the size of the operation.
- General permits: Historically, the Department has issued individual WPDES permits to CAFOs. The revisions to ch. NR 243 outline the application requirements for a CAFO General Permit that could be used to cover a number of operations.
- Standard CAFO requirements: CAFO operators will be required to take a number of actions to address water quality impacts from their operations, including managing the production area so that there are no discharges to navigable waters except for overflows in certain storm events (e.g., 25 year,

24 hour storm events for dairy operations). Other required actions include storm water controls (ancillary service and storage areas, including CAFO outdoor vegetated areas), mortality management, restrictions on chemical disposal in storage or containment facilities, and development of emergency response plans.

- Nutrient Management standard for land application activities: The proposed revisions would incorporate an updated version of the Natural Resource Conservation Service (NRCS) technical standard for nutrient management (NRCS Standard 590, September 2005).
- Land application restrictions within the Surface Water Quality Management Area (SWQMA): The proposed revisions include restrictions on manure and process wastewater applications that are intended to protect water quality and to address federal requirements mandating a 100-foot setback from navigable waters/conduits to navigable waters, a 35-foot vegetated buffer, or conservation practices equivalent to a 100-foot setback. The revisions attempt to identify conservation practices equivalent to the 100-foot setback as well as practices to be implemented within the SWQMA (1,000 feet of a lake, 300 feet of a stream) to protect against acute manure runoff events and long-term nutrient delivery to surface waters. These practices include reduced setbacks combined with tillage options, reduced application rates, and requirements for maintaining crop residue on fields.
- Restrictions on applying solid and liquid manure on frozen or snow-covered ground: Key proposed revisions include a prohibition on surface applications of liquid manure on frozen or snow-covered ground in concert with requirements for all CAFOs to have six months storage for liquid manure by January 1, 2010. Solid manure can be surface applied under certain conditions on frozen or snow-covered ground, except during the months of February and March. Incorporation or injection of liquid and solid manure is allowed under frozen or snow-covered ground conditions if it can be done properly.
- Phosphorus delivery: All CAFOs would be required to implement phosphorus-based nutrient management. In addition to the phosphorus requirements in NRCS Standard 590, the proposed revisions include additional restrictions intended to address phosphorus delivery to surface waters based on soil test phosphorus levels and the Wisconsin Phosphorus Index.
- Manure stacking: The proposed rule allows for the temporary unconfined stacking of manure with 16% solids or greater, during winter months in lieu of storage in a designed storage facility. These stacks would be allowed to remain in place for up to eight months. Stacking of manure with 32% solids or more may also be allowed on a case-by-case basis.
- Responsibility for CAFO manure: The revisions identify the circumstances under which CAFOs are not considered to be responsible for the disposal/land application of the manure they generate.
- Monitoring/inspections/reporting: The revisions reflect federal monitoring, inspection and reporting requirements as well as additional requirements for maintaining and determining compliance with nutrient management requirements.
- Designating small/medium CAFOs: The revisions reflect federal and state authority to define and designate small and medium size animal feeding operations that: (1) have discharges to navigable waters or (2) cause the fecal contamination of wells as CAFOs and authorize issuance of WPDES permits to those operations.

It should be noted that CAFOs may also qualify for the Department's Green Tier program whereby regulatory oversight may be reduced for certain CAFOs that achieve superior environmental performance.

3. How does this proposal affect existing policy?

The proposal's primary impact on existing policy is to more clearly outline permit application requirements and requirements for manure storage and nutrient management for CAFOs in order to reflect federal CAFO rule revisions and to reflect state authority to protect groundwater.

The proposed revisions to ch. NR 243 make only slight changes to the current code's duty to apply requirements for operations with 1,000 animal units or greater. The duty to apply for WPDES permits is no longer based solely on the size of operations, but also on the fact that large operations that land apply or store manure will have actual discharges to groundwater and surface waters that require permit coverage. Therefore, any large CAFO that will store manure or process wastewater in a structure that is at or below grade, or that land applies manure or process wastewater will have to apply for a WPDES permit. In addition, under the existing regulations, the Department can require WPDES permit coverage for medium and small CAFOs based on certain discharges to navigable waters. The proposed rule retains this federally-based provision, but also extends the ability of the Department to require permit coverage for medium and small operations if they have discharges that cause contamination of wells. While the proposed code maintains the combined animal unit calculation in the current code, it adds the required federal "individual" animal unit calculation using more restrictive federal animal unit numbers for certain animal types. The federal "individual" animal unit calculation will result in an additional 10-15 existing livestock operations needing to apply for WPDES permits for the first time. The proposed revisions also allow operations that become CAFOs as a result of purchasing another operation up to 90 days to apply for WPDES permits.

The existing requirements in ch. NR 243 prohibit runoff of surface applied manure from the application site at any time. However, the revised federal regulations created a definition for the term "agricultural storm water discharges." In general, "agricultural storm water discharges" are discharges to surface waters from land application activities that occur after an operation has complied with its approved nutrient management plan and land application restrictions in the WPDES permit. These "agricultural stormwater discharges" are not regulated by the WPDES permit. Therefore, given the definition of "agricultural storm water," and other changes to the land application requirements, the proposed rule revisions now allow limited discharges of land applied manure and process wastewater to navigable waters provided certain conditions are met.

The current version of ch. NR 243 also allows application on frozen or snow-covered ground for all manure (solid and liquid) and does not require liquid manure storage. The proposed code includes more restrictive manure handling requirements, including: (1) a prohibition of surface applications of solid manure on frozen or snow-covered ground during February and March, (2) a prohibition of surface applications of liquid manure whenever the ground is frozen or snow-covered, and (3) a requirement that CAFOs construct 180 days of storage for liquid manure. These changes are being made in response to federal requirements that CAFOs address the timing of manure applications in order to prevent nutrient delivery to navigable waters. These restrictions are also a response to previous runoff events in the state from manure applications on frozen or snow-covered ground that have impacted surface waters and groundwater (fish kills, runoff events, private well contaminations). The revisions to ch. NR 243 also require that CAFOs implement phosphorus-based nutrient management statewide. The current version of ch. NR 243 only requires phosphorus-based nutrient management in targeted areas of the state.

The proposed code also includes new federal inspection and recordkeeping requirements and specifies monitoring and reporting requirements for land application activities and nutrient management. In other areas, the rule revisions attempt to ensure statewide program consistency by codifying certain requirements that were previously determined on a case-by-case basis within each permit such as allowances for stacking of manure during winter months. In addition, the proposed revisions provide additional allowances for CAFOs to transfer responsibility for manure and process wastewater to other parties provided certain conditions are met.

4. Hearing synopsis.

A total of five hearings were held on ch. NR 243 at the following locations in late summer of 2005; Richland Center (August 15), Jefferson (August 17), Eau Claire (August 18), Wausau (August 22) and Green Bay (August 25). Public participation at the hearings is summarized in the table below.

With the exception of the Green Bay and Eau Claire hearings, most of the hearings appeared to be more heavily attended by livestock producers and producer groups who had come to learn about the rule or express concerns about the rule. The Eau Claire meeting was lightly attended and appeared equally split between people supporting the rule and those opposing or expressing concerns about the rule. At the Green Bay hearing, a large number of individual non-farm citizens had come to learn about the rule or to express general support for the rule. Particularly noteworthy was the testimony by a farm family speaking in general support of the rule whose well had been contaminated by manure and whose young daughter had become sick due to E-coli. Comments at the hearings generally reflected the written comments received during the public comment period which are discussed below.

Hearing Location	Total attendance	Appearance slips	Oral Testimony	Support	Support w. Changes	Oppose	As Interest May Appear
Richland Center	30	24	8	2	0	3	4
Jefferson	20	19	7	2	1	5	1
Eau Claire	14	12	6	4	1	3	2
Wausau	34	29	6	3	0	12	12
Green Bay	75	33	15	16	1	3	2
Totals	173	117	42	27	3	26	21

Based on input from producers and producer groups, the Department extended the public comment from September 9, 2005 to October 14, 2005. The Department has made a number of public contacts after the hearings including eight additional information sessions (an afternoon and evening session at each listed site) in Menomonee (September 20), Abbotsford (September 21), Madison (September 28) and Appleton (September 29). The Department has also given a number of presentations to various groups on the proposed revisions including; CNMP Training (Professional Dairy Producers of Wisconsin (PDPW) (November 3); Wisconsin Fertilizer, Aglime and Pest Management Conference (January 18); Soil and Water Conservation Society (January 26), Professional Nutrient Applicators (February 1); Farm Management Update for Ag Professionals (March 17); PDPW (March 30); Wisconsin Ag Coalition (April 10); Environmental advocacy and conservation groups (April 17). The Department has also made numerous informal contacts with other state and federal agencies (e.g., DATCP, US EPA Region V, NRCS) regarding the proposed rule.

In addition to the comments received at hearings, the Department received 374 comment letters with a total of approximately 1200 individual comments regarding the rule.

The Department received many comments from individual producers, permitted and unpermitted, producer groups (e.g., Dairy Business Association, Midwest Food Processors Association, Wisconsin Federation of Cooperatives, Wisconsin Pork Association) and agronomists who work with livestock operations. These commenters generally spoke in opposition to the proposed rule conditions, particularly as related to duty to apply requirements, the continued use of the combined animal unit calculation, liquid storage requirements, restrictions on frozen or snow-covered ground, responsibility for manure distributed to other producers or individuals, and monitoring and inspection requirements.

Many producers believed that the rule requirements are too costly and are overly prescriptive and onerous and would impede growth of the livestock sector in Wisconsin. Many believed that the revisions exceed the federal regulations and are not consistent with other state of Wisconsin rules and standards (e.g., Livestock Siting Rules-ATCP 51, ATCP 50 and NRCS Standard 590), particularly related to nutrient management requirements.

The fact that all large CAFOs (1,000 animal units or greater) would be required to obtain permits based on discharges to groundwater and surface water from land application activities has been viewed unfavorably by agricultural groups. Some did not agree that all land application results in discharges to groundwater. They were concerned the Department would use this reasoning to issue permits to operations of all sizes that land apply manure. The continued use of the combined animal unit calculation generated significant concern and focused on the fact that the combined animal unit calculation was not required by federal CAFO rules. Some agricultural groups asserted that the combined animal unit calculation would result in over 300 new operations needing to get permits. Restrictions on manure applications of frozen or snow-covered ground were viewed as inconsistent with other state rules. In addition, comments indicated that restricting applications on frozen or snow-covered ground, especially in February and March, could potentially result in more runoff during the spring due to compaction issues and the sheer volume of manure that would need to be applied before crops were planted during spring rains. There were some producers who believed that there needed to be more restrictions for liquid manure than solid manure. Many opposing comments regarding restrictions on land application activities near surface waters and direct conduits to navigable waters (SWQMA restrictions) were focused on the assumed inclusion of subsurface drainage system (tile lines) in the definition of conduit to navigable waters. Comments expressed concern that these requirements would take land out of production.

These groups also objected to the monitoring and reporting requirements in the code, citing the time and expense that would be associated with the requirements. The Department received limited comment in opposition to the concept of phosphorus-based nutrient management and mortality management. However, comments opposed phosphorus-based restrictions in ch. NR 243 that went beyond NRCS Standard 590 and opposed the reporting requirements associated with mortality management. Agricultural representatives generally spoke in favor of the use of general permits for CAFOs and the Department “Green Tier” program. A limited number of producers spoke in favor of some of the other rule requirements, especially the need for liquid manure storage.

The Department also received many comments from individual citizens and environmental advocacy and conservation groups (e.g., Wisconsin Trout Unlimited, Environmental Defense, Wisconsin Wildlife Federation, River Alliance of Wisconsin, Midwest Environmental Advocates representing over 15 advocacy groups and individuals). Approximately 260 comments consisted of concerns about impacts to water quality from improper manure handling, general support for rule requirements for winter spreading restrictions and liquid manure storage, and concern or opposition to both general permits and allowances to stack manure outside of confined storage facilities. The Department also received submittals from 25 members of the Wisconsin League of Conservation Voters expressing general support for the rule based on concerns about protecting Wisconsin’s water resources. Comments generally supported the duty for all large CAFOs to apply for WPDES permits, the combined animal unit calculation, the additional groundwater protections included in the code, winter spreading restrictions for solid and liquid manure, liquid manure storage, SWQMA restrictions, and phosphorus-based nutrient management. Reasons for support centered around ensuring that waters of the state are protected. Many referenced historical manure runoff events including the greater than 50 events documented in 2004-2005). Comments also referenced the state authority to protect groundwater.

While many commenters expressed general support, some wanted the rule strengthened. These particular comments proposed: (1) eliminating the allowance for a “no potential to discharge” determination, (2) requiring liquid manure storage by 2008 or earlier rather than 2010, (3) placing additional restrictions on land applications of manure and process wastewater related to phosphorus, (4) eliminating the potential use of General Permits for CAFOs and (5) eliminating the allowance for stacking of manure. Some expressed concern about the complexity of portions of the rule (e.g., SWQMA restrictions) and the Department’s ability to enforce the rule in a preventative rather than reactive mode. In addition, a comment was received that recommended that the Department should more aggressively permit small and medium operations (those with fewer than 1,000 animal units).

A number of comments and legal arguments were raised by representatives of both agricultural and environmental advocacy groups referencing a recent court decision on the federal CAFO rule (the *Waterkeeper* decision) as justification for their support or opposition for portions of the rule.

The Department received comments from other government agencies including US EPA, the Department of Agriculture, Trade and Consumer Protection (DATCP), the Natural Resources Conservation Service (NRCS), Department of Commerce (Small Business Regulatory Review Board (SBRRB)), UW-Discovery Farms and a small number of county Land Conservation Departments.

US EPA primarily supported the rule but commented on areas it did not believe that the rule was protective enough (e.g., allowances to spread manure and process wastewater on fields high in phosphorus, winter spreading restrictions, addressing forecasted rain). US EPA also provided a number of technical and clarifying comments as did NRCS. DATCP primarily commented in general support of the rule except in areas that it believed the revisions were inconsistent with other state rules and programs. DATCP also identified areas where it believed that the rule language was complex and confusing. UW-Discovery Farms discussed the need to work with and educate producers to solve runoff problems, identified areas that need more study (tile line discharges), and asked clarifying questions regarding rule requirements. Counties that commented wanted more restrictive requirements for manure storage and groundwater protection.

The SBRRB submitted a number of questions regarding the Department’s initial regulatory flexibility analysis. The Department has responded to these comments as part of the “Response to Comment” and will be sending those responses to the SBRRB.

In response to comments, a number of changes were made to the version of ch. NR 243 that was public noticed on August 1, 2005. A more detailed summary of comments and associated responses are included in the attached “Response to Comments.” Some of the more significant changes that have been made in response to comments include:

- Revising the definition of “agricultural storm water” to more clearly reflect conditions when discharges of manure and process wastewater to navigable waters are allowed
- Revising the combined animal unit calculation to reflect the calculation in current ch. NR 243 and adding an “individual” animal unit calculation (the public noticed code would have used more restrictive animal units numbers from the federal rule in the mixed animal unit calculation, and according to the Dairy Business Association, would have required permits for many more operations)
- For large CAFOs, specifying that discharges to groundwater and surface waters from land application or storage requires coverage under WPDES permits (associated with this duty to apply requirement, the “no potential to discharge determination” has also been removed)

- Extending the effective date of solid manure winter spreading restrictions and storage requirements from January 1, 2007 to January 1, 2008 for existing operations.
- Restricting surface applications of manure based on forecasted precipitation
- Directly referencing the Wisconsin Phosphorus Index (PI) as a method of addressing phosphorus delivery to water resources and placing additional restrictions on fields with high soil phosphorus levels
- Requiring an assessment of the risk of acute winter losses (using the PI) as a basis for allowing surface applications of solid manure, process wastewater and emergency applications of liquid manure on frozen or snow-covered ground
- Allowing manure stacked in the winter to remain in place for up to eight months (the public noticed code would have required stacks be removed by June 1st)
- Allowing case-by-case approvals of surface applications of manure during some winter months for operations that stack rather than store manure with more than 32% solids
- Allowing the Department to designate small or medium operations that cause fecal contamination of wells as CAFOs and require coverage of such operations under WPDES permits
- Allowing an animal feeding operation that becomes a CAFO as a result of purchasing another operation up to 90 days to apply for a WPDES permit

5. Information on environmental analysis, if needed.

The proposed rule revisions would have a beneficial effect on the quality of the waters of the state. These effects are discussed in detail in the attached “Environmental Assessment.”

6. Final Regulatory Flexibility Analysis.

It is expected that most CAFOs currently meet the definition of a small business. It is not expected that the proposed rule will have a significant economic impact on a substantial number of small businesses. The effects of the proposed rule changes on small businesses are addressed in detail in the attached “Small Business/Final Regulatory Flexibility Analysis” and “Fiscal Impact Report-Private Sector.”